

# The Auction Smart Contract

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- Smart Contract for a Decentralized Auction like an eBay alternative;
- The Auction has an **owner** (the person who sells a good or service), a **start** and an **end** date;
- The owner can cancel the auction if there is an emergency or can finalize the auction after its end time;
- People are sending ETH by calling a function called **placeBid()**. The sender's address and the value sent to the auction will be stored in mapping variable called **bids**;
- Users are incentivized to bid the maximum they're willing to pay, but they are not bound to that full amount, but rather to the previous highest bid plus an **increment**. **The contract will automatically bid up to a given amount**;
- The **highestBindingBid** is the selling price and the **highestBidder** the person who won the auction;
- After the auction ends the owner gets the **highestBindingBid** and everybody else **withdraws** their own amount;

# The Auction Contract - The **placeBid()** function

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bids[0x123...] = 40

bids[0xabc...] = 70

bidIncrement = 10

highestBidder = 0xabc...

highestBindingBid = 50

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0x123... is sending 100 wei

bids[0x123...] = 40 + 100 = **140**

highestBindingBid = min(140, 70+10) = 80